

**Abstract**

A method and apparatus are disclosed for estimating the location of a wireless terminal across multiple building floors. The illustrative embodiment determines the floor where the wireless terminal is presently located by using a majority logic-based heuristic. A plurality of signal monitors measure signals from the wireless terminal and provide those signal strength measurements to a location estimation server. Alternatively, the wireless terminal measures signals that are transmitted by a plurality of transmitting signal devices and provides those signal strength measurements to a location estimation server. The location estimation server determines the floor of the wireless terminal in accordance with the illustrative embodiment of the present invention.